MAY 2 1 1988

FEMA FIS 120094

FLOOD INSURANCE STUDY

GILCHRIST COUNTY, FLORIDA AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
UNINCORPORATED AREAS	120094

AUGUST 16, 1988

Federal Emergency Management Agency

ORIGINAL

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FLOOD INSURANCE STUDY

GILCHRIST COUNTY, FLORIDA
AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the geographic area of Gilchrist County, Florida (hereinafter referred to collectively as Gilchrist County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by the U.S. Army Corps of Engineers (COE), Jacksonville District (the Study Contractor) for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-85-E-1822, Project Order No. 1. This study was completed in October 1986.

1.3 Coordination

An initial consultation and coordination meeting was held in the City of Jacksonville on May 6, 1983, to explain the nature and purpose of a Flood Insurance Study and to determine the areas to be studied in Gilchrist County. Representatives of FEMA, the Study Contractor, the Suwannee River Water Management District, and the community were in attendance.

On September 15, 1987, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the community.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Gilchrist County, Florida. The area of study is shown on the Vicinity Map (Figure 1).

Flooding caused by overflow of the Suwannee River and the Santa Fe River was studied in detail.

Areas having low development potential or minimal flood hazards were previously studied using approximate analyses. The results were shown on the Flood Hazard Boundary Map for Gilchrist County, Florida (Reference 1) and are incorporated into this Flood Insurance Study.

The areas studied were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through October 1991. The scope and methods of study were proposed to and agreed upon by FEMA and Gilchrist County.

2.2 Community Description

Gilchrist County is in north-central Florida, 75 miles southwest of the City of Jacksonville. Gilchrist County is bordered on the west by the Suwannee River, which separates it from Dixie County; on the north by the Santa Fe River, which separates it from Suwannee County; on the east by Alachua County; and on the south by Levy County. Gilchrist County is served by the CSX railroad, State Roads 26, 47, and 49, and Interstate 129. The 1980 population of Gilchrist County was reported to be 5,767, an increase of 62 percent over the 1970 population of 3,551 (Reference 2).

The City of Trenton is the county seat and the major industries in Gilchrist County are hog raising and watermelon farming.

The county is in the Gulf Coastal lowlands physiographic area with topography ranging from 10 feet to about 75 feet.

On the Suwannee River from river mile 34.0 to river mile 42.0, from river mile 61.0 to the mouth of the Sante Fe River, and along the Santa Fe to the Alachua county line, the Fresh Water Swamp association is adjacent to the river. This association consists of nearly level, very poorly drained soils subject to prolonged flooding.

Adjacent to the Suwannee River from river mile 42.0 to 61.0 is the Chipley-Blanton-Swamp association, which consists of nearly level to gently sloping moderately well drained soils, sandy throughout and moderately well drained soils with thick sandy layers over loamy subsoil and very poorly drained soils (Reference 3).

The climate of Gilchrist County is semi-tropical, characterized by long, hot summers and mild winters. The average annual rainfall is 54.76 inches,

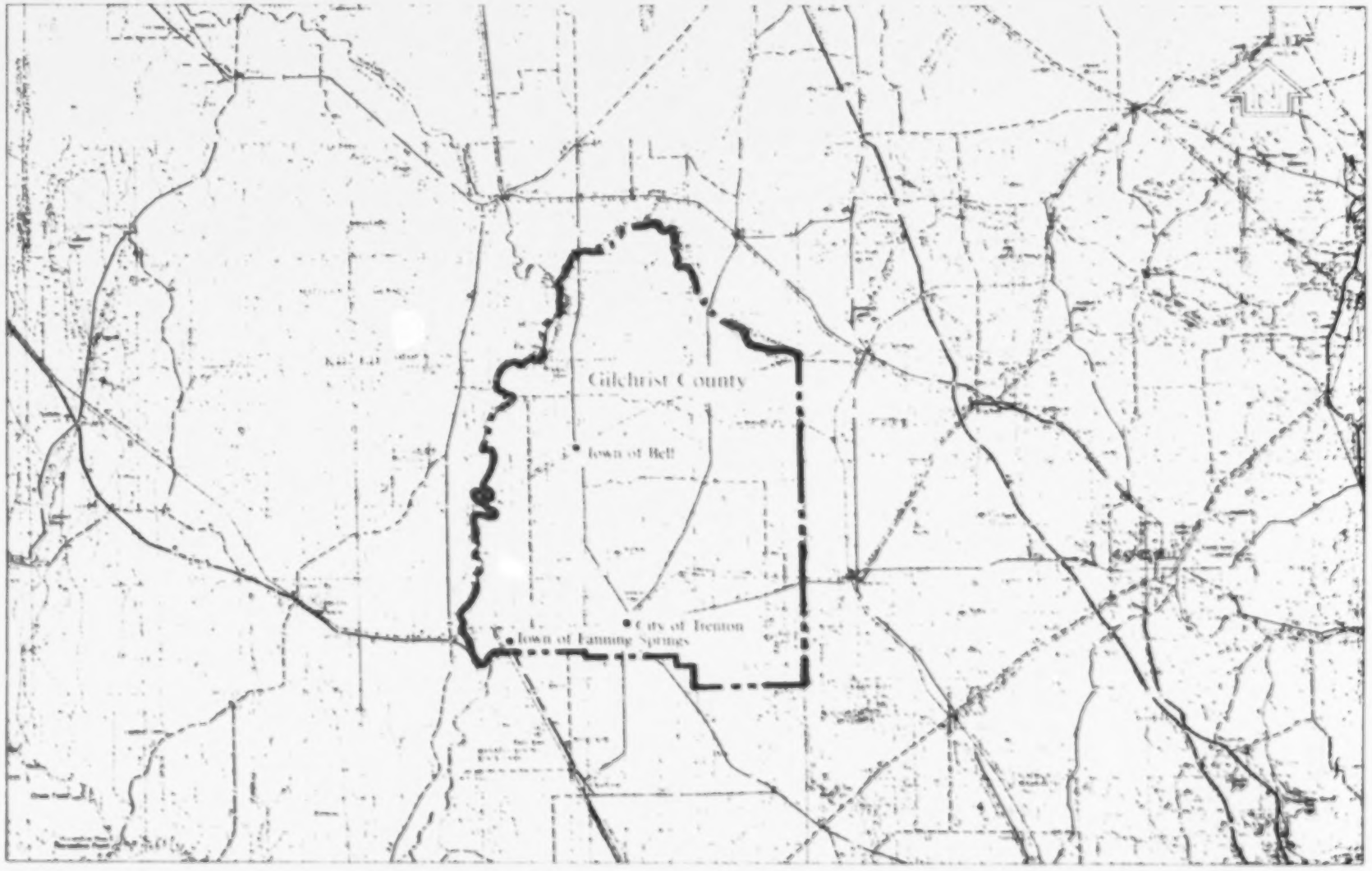


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

GILCHRIST COUNTY, FL
AND INCORPORATED AREAS

APPROXIMATE SCALE

8 0 8 16 24 MILES

VICINITY MAP

while the average temperatures vary from 56.2 degrees Fahrenheit (°F) in January to 81.2°F in August.

2.3 Principal Flood Problems

The most severe floods in the Suwannee River basin are associated with storms, or sequences of storms, that produce widespread distribution of rainfall for a duration of several days. Flooding occurs in all seasons, but maximum annual stages occur most frequently from February through April as a result of a series of frontal-type rainfall events over the basin.

A number of major floods have occurred on the Suwannee River during the 20th century with the largest flood occurring at Wilcox in April 1948.

HISTORICAL FLOOD DATA

LOCATION	PEAK DISCHARGE (CFS)				
SUWANNEE RIVER	1948	1928	1973	1984	1959
near Branford	83,900	65,000	54,700	42,200	34,100
near Wilcox	84,700	71,500	55,100	48,100	40,700
SANTA FE RIVER	1964	1948	1934	1945	1947
at Interstate 27	17,000	12,300	11,400	9,300	8,110

2.4 Flood Protection Measures

Flood protection measures are not known to exist within the study area.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community.

The U.S. Geological Survey (USGS) has monitored flows in the Suwannee River basin at two selected gaging stations since 1928 and flow in the Santa Fe River basin since 1934. Regression analyses were used to fill in missing data and to extend records at each gaged location on the Suwannee and the Santa Fe Rivers.

Flood recurrence frequencies were determined by log-Pearson Type III statistical analysis in accordance with procedures found in Water Resources Council Bulletin No. 17B (Reference 4). On the Santa Fe River, a rainfall runoff model was developed using the standard Soil Conservation Service procedure and the HEC-1 runoff model. The model was calibrated to the Hurricane Dora flood of 1964 and verified by statistical analysis of discharge records from four long-term gages on the Santa Fe River.

Peak discharges for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
SUWANNEE RIVER near the Town of Wilcox	7,880	34,800	54,000	62,900	85,300
SANTA FE RIVER at Interstate 27	1,017	9,192	13,791	16,717	22,200

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Cross-section data were obtained by aerial photography for the floodplain areas and from field measurements for the main channel and immediate overbanks (References 5 and 6). All bridges were field surveyed to obtain elevation data and structural geometry. Cross sections are located on the Suwannee and Sante Fe Rivers with respect to river miles. The distance between river miles is only approximate.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the Flood Boundary and Floodway Map.

Water-surface elevations of floods of the selected recurrence intervals were computed through use of the COE HEC-2 step backwater computer program (Reference 7). Roughness coefficients (Manning's "n") used in the hydraulic computations were determined by analyzing known flood events in the Gilchrist County reaches of the Suwannee and Santa Fe Rivers. The roughness coefficients for the main channels ranged from 0.035 to 0.045. For the overbanks the values ranged from 0.15 to 0.20 on the Suwannee River and from 0.2 to 0.28 on the Sante Fe River.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 50- and 100-year flood elevations are close together, due to limitations of the profile scale, only the 100-year profile has been shown.

The hydraulic analyses for this study are based on the effects of unobstructed flow. The flood elevations shown on the profiles are, thus, considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the map and described in the exhibit labeled Elevation Reference Marks.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Flood Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:2000 with a contour interval of 2 feet (Reference 8).

The 100- and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map. On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, AO, A99, V, and VE) and the 500-year floodplain boundary

corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary was delineated using the Flood Hazard Boundary Map for Gilchrist County (Reference 1).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces the flood-carrying capacity, increases the flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the computations are tabulated for selected cross sections and are shown in Table 2, Floodway Data. The computed floodways are shown on the Flood Insurance Rate Map. In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown. Portions of the floodways for the Suwannee and Sante Fe Rivers lie outside the county boundary.

The area between the floodway and the 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe thus encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
SUWANEE RIVER								
O	62.24	9365	99,894	0.7	30.6	30.6	31.6	1.0
P	62.67	7371	85,029	0.8	30.8	30.8	31.8	1.0
Q	63.27	6583	46,486	1.4	31.0	31.0	31.9	0.9
R	65.66	7019	90,361	0.7	32.3	32.3	33.2	0.9
SANTA FE RIVER								
A	1.61	1370	22,922	0.7	32.3	32.3	33.3	1.0
B	2.88	1760	29,609	0.6	32.6	32.6	33.6	1.0
C	3.60	1610	26,768	0.6	32.8	32.8	33.8	1.0
D	4.73	1452	25,059	0.7	33.0	33.0	34.0	1.0
E	6.46	1601	30,054	0.5	33.5	33.5	34.5	1.0
F	7.64	1694	23,965	0.7	33.8	33.8	34.8	1.0
G	8.43	2099	25,132	0.7	34.0	34.0	35.0	1.0
H	10.06	1217	17,908	0.9	34.5	34.5	35.5	1.0
I	11.30	1615	28,519	0.6	34.8	34.8	35.8	1.0
J	13.03	1832	28,188	0.6	35.2	35.2	36.2	1.0
K	14.08	1883	25,502	0.6	35.5	35.5	36.5	1.0
L	15.08	1643	22,407	0.7	35.9	35.9	36.8	0.9
M	16.53	1668	25,330	0.7	36.6	36.6	37.5	0.9
N	17.78	1615	21,455	0.8	37.2	37.2	38.2	1.0

[1]MILES ABOVE MOUTH
[2]THIS WIDTH EXTENDS BEYOND COUNTY BOUNDARY

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

GILCHRIST COUNTY, FL
AND INCORPORATED AREAS

FLOODWAY DATA

SUWANNEE RIVER–SANTA FE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
SANTA FE RIVER								
O	18.49	1587	18,323	0.9	37.6	37.6	38.6	1.0
P	19.62	1224	18,240	0.9	38.2	38.2	39.2	1.0
Q	20.44	1368	19,267	1.0	38.6	38.6	39.6	1.0
R	21.59	541	7946	2.5	39.6	39.6	40.5	0.9

[1]MILES ABOVE MOUTH
[2]THIS WIDTH EXTENDS BEYOND COUNTY BOUNDARY

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

GILCHRIST COUNTY, FL
AND INCORPORATED AREAS

FLOODWAY DATA

SANTA FE RIVER

Floodways were not computed for this study along the Suwannee River in Gilchrist County. Results of the floodway computations previously accomplished for the Suwannee River in the Lafayette County reach of the river were used.

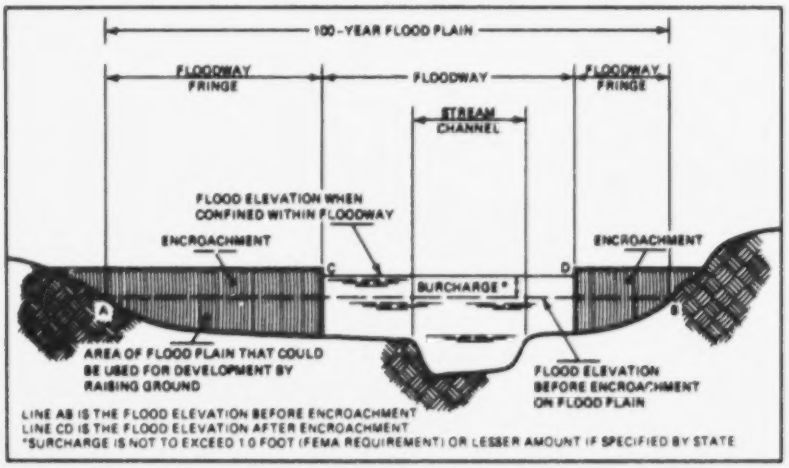

100-YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE

FIGURE 2 - Floodway Schematic

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown with this zone.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The current Flood Insurance Rate Map presents flooding information for the geographic area of Gilchrist County. Previously, separate Flood Hazard Boundary Maps were prepared for each floodprone incorporated community and the unincorporated areas of the county. Historical data relating to the maps prepared for each community are presented in Table 3, Community Map History.

7.0 OTHER STUDIES

Flood Insurance Studies have been published for Dixie and Lafayette Counties, Florida (References 9 and 10) and are in agreement with this study.

Flood Insurance Studies are in progress for Suwannee and Columbia Counties, Florida (References 11 and 12) and are in agreement with this study.

Due to its more detailed analysis, this Flood Insurance Study supersedes the previously printed Flood Hazard Boundary Map for Gilchrist County (Reference 1).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, 1371 Peachtree Street, NE., Suite 736, Atlanta, Georgia 30309.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
UNINCORPORATED AREAS	JANUARY 28, 1977	MARCH 18, 1977	AUGUST 16, 1988	

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

GILCHRIST COUNTY, FL AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

9.0 REFERENCES AND BIBLIOGRAPHY

1. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Gilchrist County, Unincorporated Areas, Florida, March 1977.

2. U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Number of Inhabitants, Florida, Washington, D.C., February 1982.

3. Florida Bureau of Comprehensive Planning, Florida General Soils, Atlas, July 1975.

4. U.S. Department of the Interior, Geological Survey, Interagency Advisory Committee on Water Data, Office of Water Data Coordination, Hydrology Subcommittee, Bulletin No. 17B, Guidelines for Determining Flood Flow Frequency, September 1981, revised March 1982.

5. Suwannee River Water Management District, Stream Cross Sections, Woolpert Consultants, Dayton, Ohio, compiled by photogrammetric methods for aerial photography.

6. U.S. Army Corps of Engineers, Jacksonville District, Stream Cross Sections, Southern Resource Mapping, Ormond Beach, Florida, compiled by photogrammetric methods from aerial photography.

7. ————, Hydrologic Engineering Center, Generalized Computer Program HEC-2, Water-Surface Profiles, Davis, California, November 1976.

8. U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:2000, Contour Interval 2 Feet: Bell, 1968; Branford, 1968; Fort White, 1969; Four Mile Lake, 1968; Hatchbend, 1968; High Springs SW, 1969; Hildreth, 1968; Newberry SW, 1968; Suwannee River, 1968; Trenton, 1968; Wannee, 1968; Waters Lake, 1968.

9. Federal Emergency Management Agency, Flood Insurance Study, Dixie County, Unincorporated Areas, Florida, November 1983.

10. ----------, Flood Insurance Study, Lafayette County, Unincorporated Areas, Florida, January 1987.

11. ----------, Flood Insurance Study, Suwannee County, Unincorporated Areas, Florida, in progress.

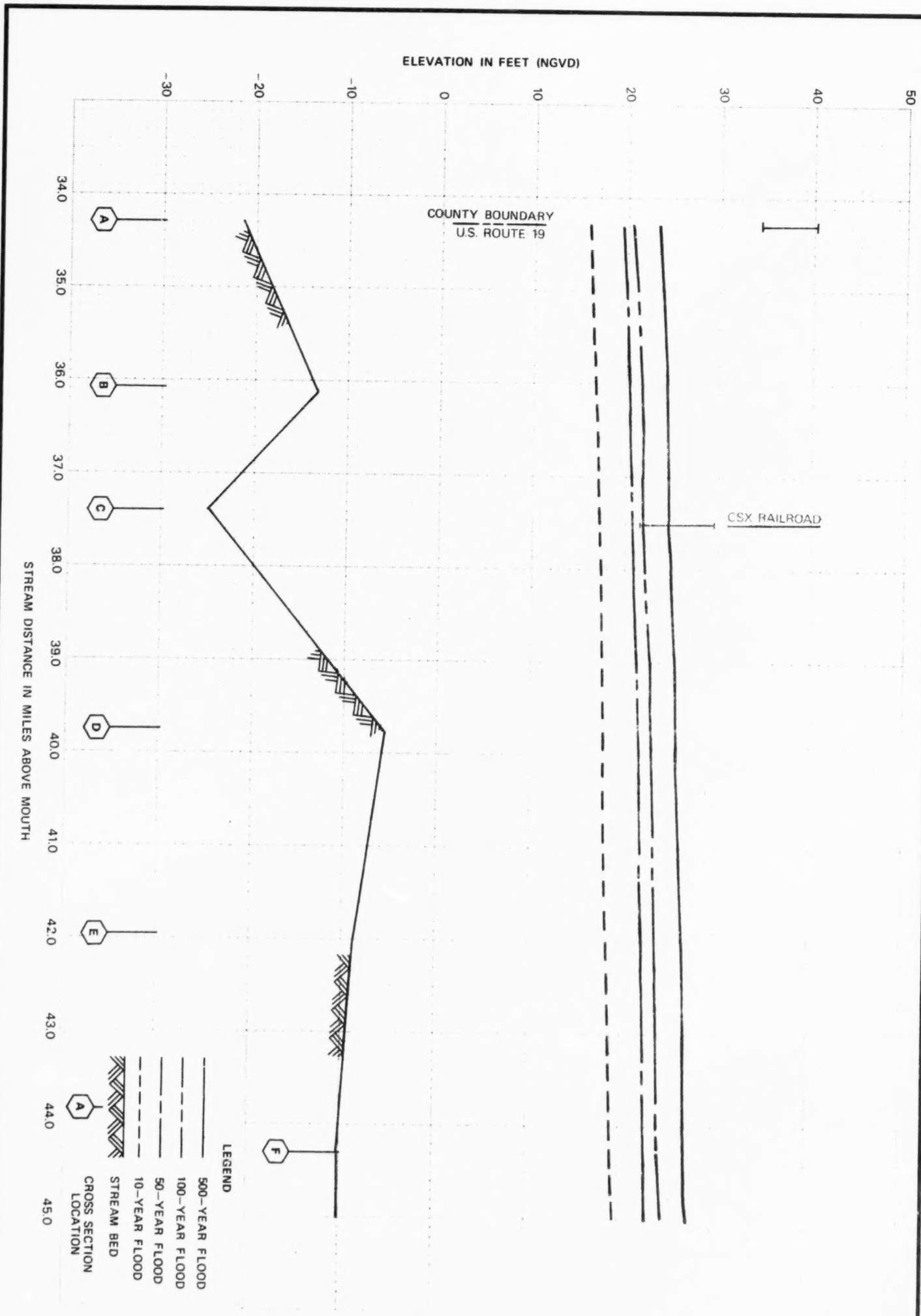
12. ----------, Flood Insurance Study, Columbia County, Unincorporated Areas, Florida, in progress.

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
1	0015	29.83	standard Corps of Engineers bronze disk (SAF-25) set in reinforced concrete post located on northeast side of intersection of Butler Boulevard and Crossley Drive about 5 feet north of power pole between power pole and guy wire
2	0015	33.75	Florida Department of Transportation disk on upstream side (northeast) of U.S. 129 bridge over the Santa Fe River
3	0015	29.29	railroad spike in REA pole located 45 feet east of T-intersection on south side of East-West Road, set in north face, 1.0 foot above ground
4	0020	48.03	railroad spike in west side of large (40-inch) sycamore tree, 1.5 feet off ground located at northeast side of T-intersection between road and abandoned house
5	0020	52.67	railroad spike in west face of a REA pole projected 6 inches above ground on north side of T-intersection for two small roads.
6	0080	39.78	Florida State Road Department disk located in southeast abutment of State Route 47 bridge
7	0080	48.48	standard bronze disk (SAF-17) set in reinforced concrete post located in triangle intersection of Deer Springs Road and Ginnie Springs Road, west from Ginnie Springs store and 29 feet west of centerline of Ginnie Springs Road
8	0085	51.52	standard Corps of Engineers bronze disk (SAF-16) set in reinforced concrete post located on north side of east-west sand road to Blue Springs at point where grass median strip separating two lanes ends and 1.35 feet south of junction of rail and wire fence

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
9	0085	54.30	standard Corps of Engineers bronze disk (SAF-15) set in reinforced concrete post located at northwest corner of intersection of County Route 340 and north-south road defining border between Gilchrist and Alachua Counties
10	0035	15.59	3.25-inch aluminum Suwannee River Water Management District disk located on south side of boat ramp at fence post on east side of the Suwannee River between river miles 64 and 65
11	0035	43.20	railroad spike on east side of 16-inch pine tree marked (TBM 82-91) located about 3,500 feet east of Simms Landing on southeast side of T-intersection
12	0035	30.97	3.25-inch aluminum Suwannee River Water Management District disk marked (82-G-D) located at Little Lake City on north side of T-intersection
13	0045	43.67	Florida State Road Department benchmark on northeast end of County Route 340 bridge over the Suwannee River
14	0110	34.28	concrete post stamped "21 CMP 1968 35" located on west side of T-intersection with County Highway 232
15	0115	16.09	USGS mark in concrete post stamped "23 CMP 1968 16" located 42 feet north of County Highway 344 and 40 feet west of centerline of Hart Springs Road North under sign for Hart Spring
16	0185	36.92	Florida State Road Department disk on northeast end of U.S. Highways 19 and 98 bridge crossing the Suwannee River



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01P	FEDERAL EMERGENCY MANAGEMENT AGENCY GILCHRIST COUNTY, FL AND INCORPORATED AREAS	FLOOD PROFILES SUWANNEE RIVER

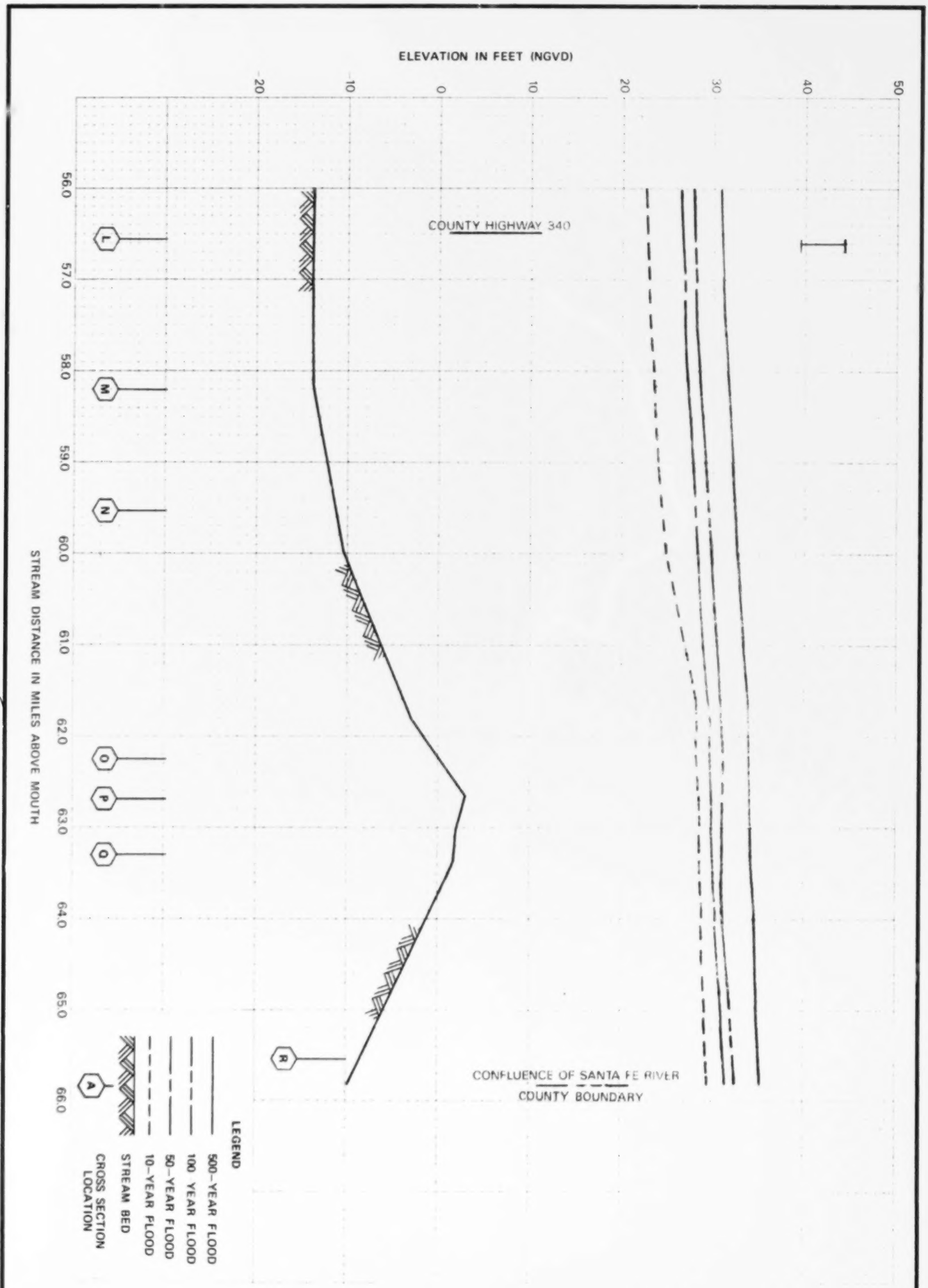
FLOOD PROFILES

SUWANNEE RIVER

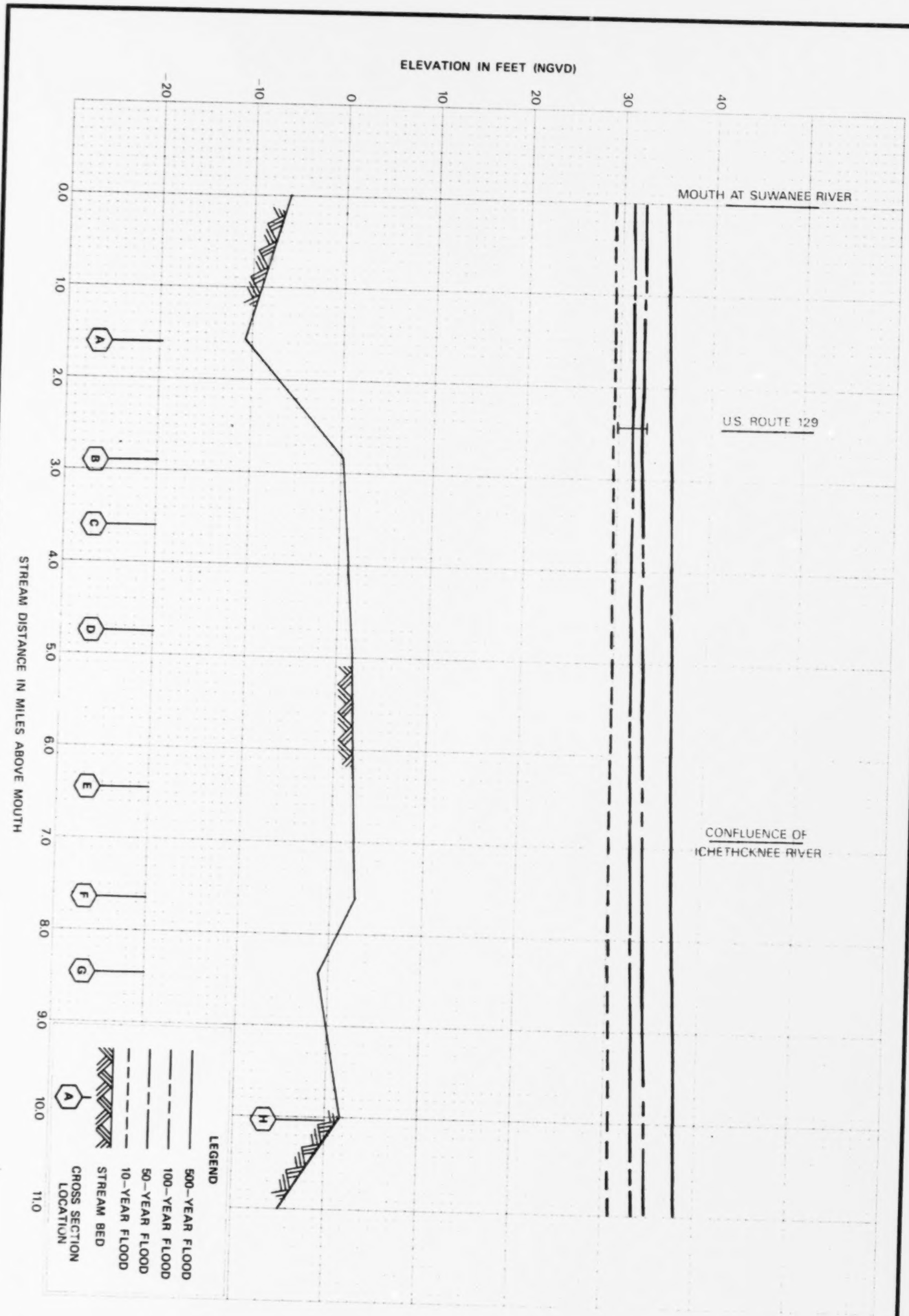
FEDERAL EMERGENCY MANAGEMENT AGENCY

GILCHRIST COUNTY, FL
AND INCORPORATED AREAS

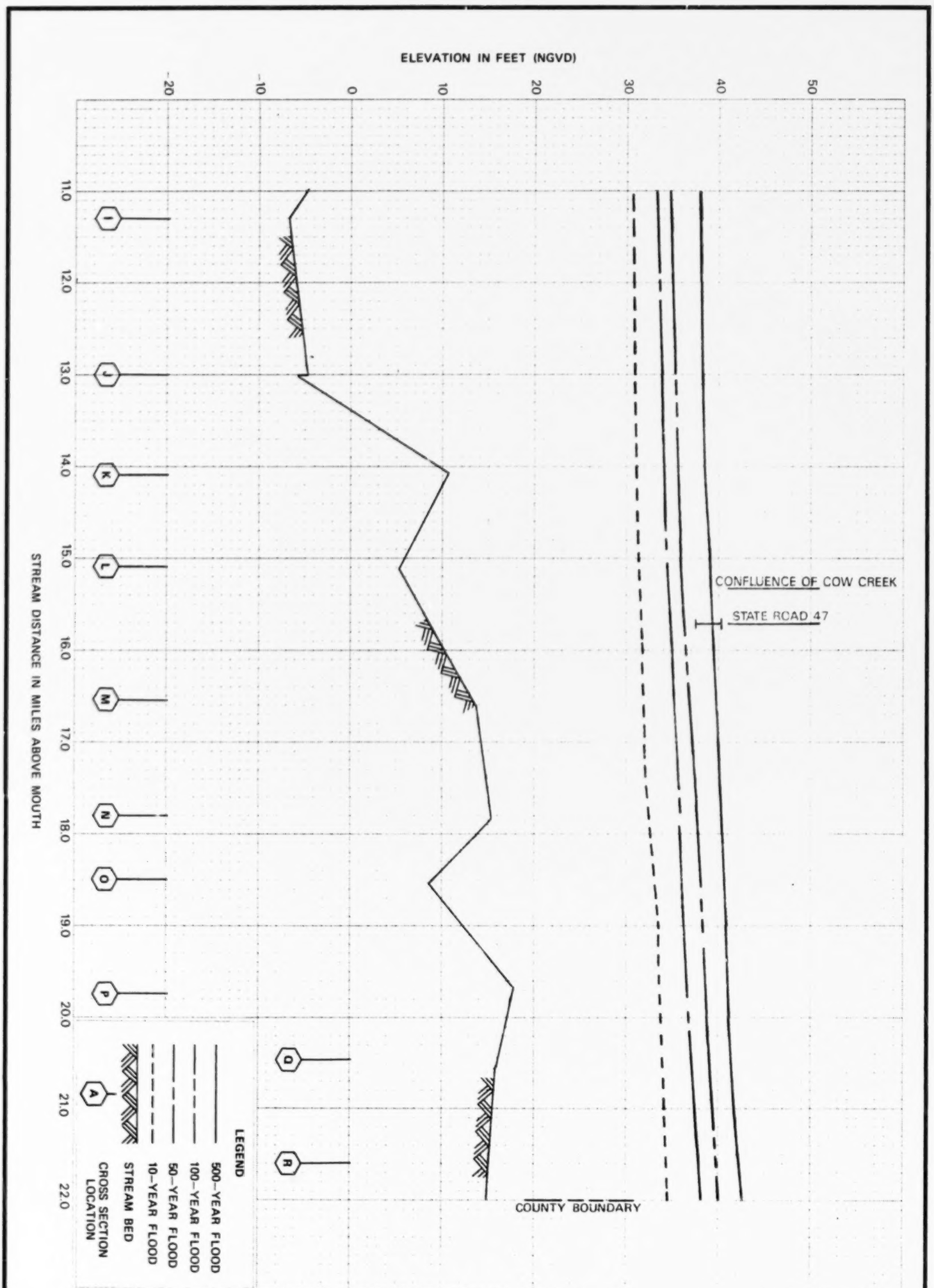
02P



03P	FEDERAL EMERGENCY MANAGEMENT AGENCY GILCHRIST COUNTY, FL AND INCORPORATED AREAS	FLOOD PROFILES SUWANNEE RIVER



04P	FEDERAL EMERGENCY MANAGEMENT AGENCY GILCHRIST COUNTY, FL AND INCORPORATED AREAS	FLOOD PROFILES SANTA FE RIVER



05P

FEDERAL EMERGENCY MANAGEMENT AGENCY

GILCHRIST COUNTY, FL AND INCORPORATED AREAS

FLOOD PROFILES

SANTA FE RIVER